Name:

## at1110paper_practice_test (v42)

1. Expand the following expression into standard form.

$$(3x + 2)(9x + 4)$$

$27x^2 + 12x + 18x + 8$

$27x^2 + 30x + 8$

2. Solve the equation.

$$(5x + 9)(7x + 3) = 0$$

$x = \frac{-9}{5}$ $x = \frac{-3}{7}$

3. Expand the following expression into standard form.

$$(7x - 3)(7x + 3)$$

$49x^2 + 21x - 21x - 9$

$49x^2 - 9$

4. Expand the following expression into standard form.

$$(7x - 3)^2$$

$49x^2 - 21x - 21x + 9$

$49x^2 - 42x + 9$

5. Factor the expression.

$$x^2 - 6x - 27$$

$$(x+3)(x-9)$$

6. Factor the expression.

$$49x^2 - 81$$

$$(7x+9)(7x-9)$$

7. Solve the equation with factoring by grouping.

$$12x^2 - 18x + 10x - 15 \;=\; 0$$

$$(6x+5)(2x-3) = 0$$
$$x = \frac{-5}{6} \qquad x = \frac{3}{2}$$

8. Solve the equation.

$$6x^2 + 22x + 16 \;=\; 3x^2 + 5x - 4$$

$$3x^2 + 17x + 20 = 0$$
$$(3x+5)(x+4) = 0$$
$$x = \frac{-5}{3} \qquad x = -4$$